2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

431 bargaining and the merchant looked upon his product somewhat
437 like a ceremonial gift which was being reciprocated. The difference between it and a gift to relatives was that the exchange was supposed to be equal, with no effort of one giver to outdo the other, and that it established no relations for the future.

The most common gift of this sort was venison. Many families included no hunters at all so when a deer was butchered in the village, they would go and proffer a basket of beans or corn. The hunter, when he had distributed what was proper to his relatives, would "give" a piece to the donor of the beans. The latter never specified how much he wanted or from what part but accepted his share like a gift. The same thing is done at present with beef. Usually there was no opportunity for more organized trade for the family needed the whole product. However, I heard of two young men from a family of hunters (I, 1, A. 5, 17) who used occasionally to take their kill to a village where wheat was raised. The villagers had been told it was wheat they wanted and brought baskets of varying sizes, receiving what the hunters thought were their equivalent in venison. In the same way salt, saguaro syrup and melons or other special crops could be "given" to the neighbors. after family demands had been satisfied.

Barter for such luxuries as buckskin and cotton cloth had more of a commercial tinge, for here the purchaser had special needs and could not take any piece offered. Still, there was as little deviation from the gift pattern as possible. The purchaser brought his gift and stated what he wanted. The seller rarely asked for any different pay since the purchaser probably had but the one thing. If it was not enough, the seller reciprocated with poor skins or a small sized mat or blanket. If the gift was entirely too small he might send the buyer home to get something in addition. If it was still to small, he would not complain but would avoid dealing with him in future.

[887] The dresser of deerskin was generally an old hunter who had an equipment of scraping post, tools and dying pots and who traded for his skins with younger men. For a skin, dressed and dyed, he expected corn and beans amounting to two bushels. For the trousers and shirts made later in Papago history, he might receive a horse.

286 Only a few old men in the whole country understood weaving,
431 for very little cotton grew in Papagueria and since it was bartered
437 from the Pima, the weaving was usually done by them also. But
887 ocassionally a family who had been working for the Pima would take their pay in cotton. If they traded for it, the price for enough to make a blanket was half a sack of salt, a buck skin, a hair rope or

2: Underhill E-5 (1931-1935)1939 NU28 Papago NU28

two baskets of beans and corn. Most old men knew how to spin cotton on the thigh and the purchaser's family might spin it or call in the neighbors for a working bee, giving them their meals meanwhile. If they brought raw cotton to the weaver, he got it spun in the same way. The chief articles made were large blankets to sleep on and narrower strips for womens' skirts. For the large blankets the price was a horse or its equivalent in produce or buckskin. The skirt the woman bought, herself, with a good willow basket of her own make.

Plaited baskets, plaited mats, netted carrying baskets and pots were made by elderly women, too old for the heavy work of corn grinding and food gathering. They were not such expensive articles as skins and cloth, an olla being worth enough beans or corn to fill two basket bowls while for a mat the measure was a winnowing bowl.

But besides this exchange among themselves, some Papago made a business of trading trips to the Pima, to Mexico and to the Yuma. These were a winter occupation on the same basis as hunting and sometimes combined with it. The Papago were homeless in the winter and many of them, instead of camping at the Well village wandered about trading their goods or their labor for enough to support them until the wet season came again.

Russell gives a list of the goods which the Papago, supposedly so poor, managed to get together for trade with the Pima. It includes giant cactus seeds, cholla fruit, agave fruit in roasted cakes and syrup, Rcat (wild potato), wild gourd seeds, small peppers, acorns from the Bellota oak, prickly pear syrup, baskets of agave leaf, sleeping mats, carrying baskets and fibre to make them, maguey fibre for picket lines, dried meat of deer, mountain sheep and cows tallow .... deer and beef, ... cheese, buckskin, livestock, red and yellow ochre, buff-colored ochre for baskets, salt.[1] What they wanted in return was food, principally wheat, which they themselves raised only in small quantities. But frequently their price was corn and beans enough to keep them alive. The people who used this expedient came from the northern villages, the Archie and Kuhatk groups and Káka, who were the Pimas' nearest neighbors. They often had relatives in the Pima country or at least friends and they pursued their exchange in the same manner they used at home.

The southern villages had their contacts with Mexico where they took principally dressed skins, cooked mescal from the mountains and their labor. They brought back knives and clothing and the knowledge of a more advanced culture than was to be found on the

[1] Russell pp. 93—94.

3: Underhill E-5 (1931-1935) 1936
NU28 Papago NU28

dark but there are white lines in the east. Those are the white hairs of Elder Brother who made us. He put them there so we can know when day is coming and we can go out to look for food.

We crawled out the little door. I remember that door so well. I always crawled out of doors till long after I was a married woman and we stopped being afraid of enemies. Then we made houses with white men's doors. But this one was little and when we came out we could see the houses of my relatives nearby among the cactus, and the girls coming out of them, too, to get water.

Those girls had nothing on above the waist. We did not wear clothes then. They had strips of hand woven cloth in front and behind, tied around their waists with a string, for we did not know how to sew them together. Only deerskins the men knew how to sew, but our people had traded this cloth from Mexico and we thought we were very fine. And with good red paint above the waist, it *was* fine. And warm too. But the girls did not put on their paint in the early cold morning. Then they had to work.

There was no water at Mesquite Root; no water at all except what fell from the clouds, and I am telling about the month of Pleasant Cold when the rains were long over. Then our pond had dried up. If we wanted to stay in our houses, the girls had to run for water far, far up the hills and across the flat land to a place called Where the Water Whirls Around. That was a low flat place, a good place for corn, and the water ran down to it from all the hills. A big water hole was there full of red mud. Oh yes, our water was always red. It made the corn gruel red. I liked that earth taste in my food. Yes, I liked it.

The girls used to crawl laughing out of the houses, with their long black hair hanging to their waists, and they would pick up their carrying nets. Fine nets we used to have in those days, all dyed with red and blue. Shaped like a cone they were, with tall red sticks to keep them in shape. When the net was on a girl's back those red sticks would stand up on either side of her face. We used to think a pretty young girl looked best that way. That was how the men liked to see her.

I was too little to have a net than, or even clothes. But I used to help my cousins put the jars in their nets and to put little sticks between them so they would not break. The boys would stand laughing around and if there was one who was not a relative the girls would joke with him. They would throw gravel at him and run away, and once a girl said to one of my cousins: "Give me that male thing you have and I will put it between my water jars instead of a stick." So we called that man Between-the-Jars. Yes, that is how we joked in the old days.

5: Castetter & Bell N-5 (1938-1940) 1942
NU28 Papago NU28
Pima NU29
Prehistoric Southwest NT3

of cotton textiles from a Colonial Hohokam site. Also a cotton textile was recovered from the Sacaton Phase in the Snaketown excavations, and cotton seeds and lint were found in other phases[68] (see Chapter III).

That the Pimans were growing a considerable amount of cotton when Kino arrived in Pimería Alta is amply supported. The early Spanish accounts describe the growing of cotton not only by the Gila Pima, but by the Sobaipuri on the San Pedro and at San Xavier.[69] No mention is made of cotton being grown by the desert people (Papago). Kino wrote that natives of Pimería had very good cotton fabrics, and in 1701 noted that the Sobaipuri at San Xavier had given him "many of their good fabrics and blankets of cotton"; and Velarde[70] recorded "The Sobaipuris and other Pimas of the North [evidently along the Gila] sow much cotton, which they weave, and with which they clothe themselves." He also informs us that the dress of those who lived in the north was of cotton cloth, very well woven and painted gracefully with red and yellow. Mange[71] wrote of Sobaipuri Indians at the *ranchería* Santa María de Bugota, as well as those of San Agustín de Oiaur on the Santa Cruz near present day Tucson, dressing themselves with cotton; and of the Sobaipuri Indians at Quíburi on the San Pedro gathering cotton "with which they walk dressed." He also noted that the Sobaipuri inhabitants of Arivavia, also on the San Pedro, gathered "cotton with which they weave premium mantas and painted of various colors, with which they dress and adorn themselves." The *Rudo Ensayo*, evidently written in 1763, in referring to the Gila Pima, records: "So much cotton

[68] Fewkes, *Casa Grande*, pp. 147-48; Jones, *Summary of Data on Aboriginal Cotton*, p. 5; Haury, in Gladwin *et al*, *Excavations at Snaketown*, I, 160-162.

[69] *Documentos*, 3rd ser., IV, 504, 647, 848; Sedelmayr, *Relación*, pp. 106, 108; Bolton: *Anza*, IV, 44; *Kino*, I, 231-32; II, 267; Russell, *Pima*, p. 77; Mange, *Luz*, pp. 248-50, 305; Wyllys, *Velarde's Relación*, p. 109.

[70] Mange, *op. cit.*, p. 305; Wyllys, *op. cit.*, pp. 129, 132.

[71] Mange, *op. cit.*, pp. 247-50, 256.

5: Castetter & Bell N-5 (1938-1940 1942
NU28 Papago NV28
Pima NV29

ripen before being picked. Of course, at present, with the commercial growing of cotton, Pima pick the cotton from the open bolls directly off the plants in the field.

Cotton seed was stored in sealed ollas in exactly the same manner as were teparies. There was no selection; seed for planting was simply taken from the general supply stored for food.

Utilization of Cotton

Cotton was grown for both lint and seeds. The lint was used for cordage, cloth, garments and tinder. Tinder was prepared from a cotton rope about one-half inch thick, several inches long and frayed at one end, used especially for lighting cigarettes. Sparks made by pounding two pieces of flint together ignited the fiber. Its use as tinder may be a Spanish introduction.

Cotton seed was parched and eaten much like we use pop corn. The seeds were placed in an olla with embers of mesquite wood on top. The olla was continually shaken and the live coals soon parched the seed. Another way of utilizing the seed was in combination with mesquite or cornmeal. Mesquite pods were pounded fine with a wooden mortar and pestle, seeds removed, and the flour mixed with that secured by pounding parched cotton seeds in a mortar. The two were then mixed and molded into a sort of cake-like tortilla, baked in ashes and eaten. A combination of cotton meal and cornmeal was utilized in the same way. Informants said either mixture tasted like, and had the texture of, tallow. From the pounded seeds Papago and Pima made a kind of bread which was baked in hot ashes. At times, water was added to pounded cottonseed meal, strained, and the liquid used as seasoning in cooking. The strained meal residue was sucked in order to remove the nutriment, and the pulp discarded.

Papago informants stated cotton was used ceremonially on their prayer sticks to symbolize clouds, and thereby invite rain. Pimas preferred eagle down for this purpose.

5: Castetter & Bell N-5 (1938-1940) 1942
NU28 Papago NU28
Pima NU29

Ginning, Plucking, Spinning and Weaving

It was woman's work to gather cotton, but weaving was an old man's art although women might help at times. Weaving of cotton was a practice common to both Pima and Papago.

One method of ginning cotton was to turn upside down a thick pottery vessel about fifteen inches in diameter made specifically for the purpose. A mat of cotton bolls was stretched over the bottom of the vessel and a smooth arrowweed stick (about eighteen inches long and three-fourths of an inch wide), from which the bark had been peeled, was rolled over the cotton, working the seeds out of the lint and toward the edge of the mat, where they dropped over the side of the bowl. This was continued until all seeds were removed.

After ginning, the cotton was spread on a cleaned smooth spot on the ground and plucked with the plucking bow in the same manner as that described by Spier[14] for the Maricopa. This was a scraped stick of arrowweed two to three inches long, strung taut to form a small bow. The bowstring was held close to a mat of cotton and plucked, the string thereby catching up the cotton fibers which were wrapped into a tight roll around the string due to its vibration. When pulled off the string, it was rolled into a loose yarn on the thigh, and was then ready for spinning. One Pima informant insisted that ginning was also done with the plucking bow, the fiber gradually being plucked away, leaving the seeds. In all probability the plucking bow was not aboriginal among these Indians.

Spinning was done by women on a simple spindle, and this process was described by Emory[15] in 1846. Although weaving was not highly developed among the Pimans, it was done on a loom, by old men, in a manner described for the Pima in 1852 by Bartlett. Such a loom, as well as a spindle, is figured and described by Russell.[16]

[14] Spier, *Yuman Tribes*, p. 113.
[15] Emory, *op. cit.*, p. 85.
[16] Bartlett, *Narrative*, II, 255; Russell, *Pima*, p. 148-51.

17:Castetter & Underhill N.E-5 (1931-1934) 1935
NU28 Papago NU28

basket bowl constituted the drum, and a small basket might serve as a drinking cup. All these because of the hard usage received were usually made of willow throughout, but for the water-tight vessels willow was essential as it swelled and filled the interstices.

The water bottles (no longer used) were tall, slender bottle shapes with an incurving neck. They were smeared outside with a gum-like secretion from the white brittlebush *(Encelia farinosa)*.

The basket granaries seen were about three feet high and sloping up gradually from a two-foot base. The warp element was beargrass *(Nolina erumpens)* or wheat straw when the latter was available; the weft, mesquite bark *(Prosopis velutina)*. ((For details see Kissell, 16).

The tools for coiled basketry are awls with points of varying length, at present made of steel but formerly of mesquite wood, generally with a handle of creosote bush wood *(Covillea glutinosa)*.

COTTON SPINNING AND WEAVING

Weaving was a rare art practiced by a few old men. One who wanted a cotton blanket or skirt would trade for the cotton, either from the few who raised it or from the Pimas. He might be able to have the spinning done at home but generally he brought the load of raw cotton to the weaver, with the gift of a large basket, beads, or dried produce. This was the price for the weaving.

The weaver called in all his neighbors for a spinning bee, giving them their meals as pay. Both men and women could spin but it was a favorite occupation of old men. They first ginned the cotton by putting it in a basket bowl and working the seeds out with a stick. To separate the fibers the worker twanged his bow string over them, causing the topmost fibers to twist around the string. This method is described by Spier (23) for the Maricopa who perhaps learned it from the Pima. The cotton was spun on a spindle of arrow weed *(Pluchea sericea)* eighteen inches high, with

17:Castetter & Underhill N.E-5 (1931-1934) 1935
NU28 Papago NU28

283 a whorl made of a section of sahuaro rib two inches wide and three or four long. The spinner placed the spindle tip in a depression in the ground then twirled the spindle clockwise with his right hand and fed the cotton with his left.

284 The loom was horizontal. The weaver placed upright in the ground four stakes of ironwood *(Olneya tesota)* or other hard wood so that they stood ten inches high. They formed a rectangle three feet wide and as long as the desired piece of cloth, generally about seven feet. Across the three-foot width the weaver fastened two cross-pieces, usually of sahuaro rib tied on with buckskin thongs. Across these the cotton warp was strung, passing under each bar and back over the top so that the strands formed a figure eight. This was the only shedding device used, for the weaving was all in one color. The batten was a length of sahuaro rib and the shuttle a short, smooth stick of creosote bush *(Covillea glutinosa)*.

Narrow belts, headbands, and cradle bands were woven on the same sort of loom but much narrower. These were plain red or red and white. The pattern was entirely in the [284] warp where strands of cotton, dyed red with *Krameria glandulosa*, were arranged in the desired order. The weft was all white and used merely as a filler.

Table 15. Acreage and Value of Crops Grown on Irrigated Land in 1962, Papago Reservations.

24
311
435
563

Crop	Chuichu		San Xavier				Gila Bend	
	Indian		Indian		Non-Indian		Non-Indian	
	Acres	Value	Acres	Value	Acres	Value	Acres	Value
Garden	5	$ 2,500	17	$ 8,500	31	0	0	0
Cotton	115	47,840	8	3,000	246	$ 82,900	61	$23,000
Small Grains	200	15,975	20	940	210	19,230	260	17,342
Forage & Pasture	400	16,000	0	0	0	0	0	0
Totals	740	82,315	45	12,440	487	102,130	321	40,342

Gross value of Indian crops	$ 94,755
Gross value of Non-Indian crops	142,472
Gross value of all crops	237,227

175
241

The history of irrigated farming at San Xavier and at Chuichu goes back to pre-Spanish times. The San Xavier area was described by Juan Mateo Manje, who visited there in 1697 with Father Kino:

> "Here the river runs a full flow of water, though the horses forded it without difficulty. There are good pasture and agricultural lands with a canal for irrigation. The Indians harvest corn, beans, and cotton from which they make cloth to dress themselves. Squash, melons and watermelons were also raised. We counted 800 souls in 186 houses." (Karns, p. 92)

[33]
[286]
[62]

175
241
311

Subsistence farming with irrigation from stream flow continued at San Xavier until 1912 with the number of acres